U.S. Department of Commerce

Northwest Regional Office

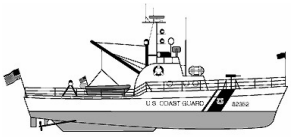
NOAA Fisheries National Marine Fisheries Service

Expanding Coverage of the Vessel Monitoring System for Monitoring Time-Area Closures in the Pacific Coast Groundfish Fishery

TABLE OF CONTENTS

I. Background

Fisheries Monitoring – Monitoring compliance with the West Coast groundfish regulations is the job of the NMFS Office for Law Enforcement (OLE), the United States Coast Guard (USCG) and officers from the states of Washington, Oregon, and California. Traditional techniques used to monitor the fishery include monitoring from air and surface craft, through on-board observer programs, and by analyzing catch records and vessel logbooks.



Pacific Coast Groundfish Management – Time and area closures have long been used to restrict groundfish fishing to keep harvests within allocations and to prohibit the catch of certain species. Until September 2002, area closures tended to occur in nearshore areas with the affected areas being defined by relatively simple latitude and longitude coordinates.

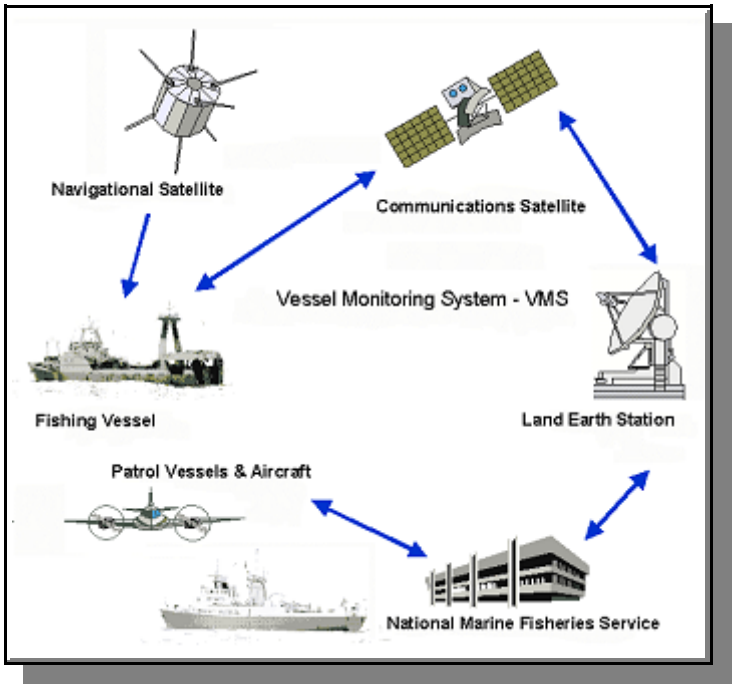
In September 2002, NMFS took emergency action to implement the first depth-based management measures in which closed areas were defined by fathom curves (the darkblotched rockfish closure area). In 2003, the use of depth-based management measures was expanded to the entire coast and applied throughout the year. Depth-based management allows fishing to continue in areas and with gear that can harvest healthy stocks with little incidental catch of overfished species such as bocaccio, yelloweye, canary and darkblotched rockfish.

The large-scale depth-related closed areas, referred to as Rockfish Conservation Areas or RCAs, extend from the U.S. - Canada border to the U.S.-Mexico border and affect commercial and recreational fishing over much of the continental shelf and slope. The RCAs are based on bottom depth ranges where overfished species are commonly found. Different RCAs are established for different gear types, as not all gear types encounter each overfished species at the same rate or in similar areas. For example, groundfish bottom trawling is banned in some RCAs (known as trawl RCAs); use of non-trawl gear -- such as limited entry and open access longline, pot or trap is banned in other RCAs (known as non-trawl RCAs). Within the RCAs, fishing likely to result in the catch of substantial amounts of overfished species is banned, while other fishing is allowed. In addition, transit of the RCAs by fishing vessels headed for open areas seaward of the RCAs is allowed.

II. Management Objectives

Maintaining the Integrity of RCAs **--** The RCAs are substantially different from previously closed areas because they extend far offshore and some vessels are allowed to operate within their boundaries. Ensuring the integrity of conservation areas using traditional enforcement methods, such as aerial surveillance and patrol boats and ships, is especially difficult because the areas are very large and the boundaries are defined by coordinates approximating ocean depth. Furthermore, it is more difficult and costly to enforce restrictions effectively when some gear types and target fishing are allowed in all or a portion of the RCA while other fishing activities are prohibited. Scarce state and federal resources also limit the use of traditional enforcement methods.

The Council chose to recommend to NMFS that the fishery be managed with more liberal harvest limits under a depth-based management regime rather than have a fishery with significantly lower harvest limits. To ensure the integrity of the RCAs, the Council recommended establishing a Vessel Monitoring System or VMS program for monitoring compliance.



III. VMS

What is VMS? – VMS is a tool that allows vessel activity to be monitored in relation to geographically defined management areas. VMS transceiver units are installed aboard vessels to automatically determine the vessel's location using Global Positioning System satellites and to transmit that position to a communications service provider. The communications service provider relays the position information to NMFS OLE. At the NMFS OLE processing center, the information is validated and analyzed.

Under the current program, each vessel's position is determined once per hour. However, the position reports can be more or less frequent depending on the need of the fishery. In most cases, the vessel owner is not aware of exactly when the unit is transmitting the position and is unable to alter the signal or the time of transmission. VMS transceivers are designed to be tamper resistant.

Why VMS? - Maintaining the integrity of the conservation areas is largely dependent upon the level of compliance that's achieved. The degree of compliance with the depth management measures depends on the ability of state and federal enforcement officers to identify violations and enforce the requirements. Enforcing RCA requirements with traditional enforcement is costly and a difficult challenge. This is because effective enforcement with traditional methods requires frequent patrolling of the shoreward and seaward boundaries of the RCAs. The single biggest factor that allows some operators to avoid compliance with the RCAs is that much of the fishing activity takes place out of view of the management agency or anyone other than the vessel crew. VMS provides relatively reliable and accurate information on the location of vessels, with a reasonable degree of accuracy. The ability to know the precise location of vessels provides for speedy identification of suspicious or illegal fishing activity in relation to the RCA boundaries. Rather than spending significant resources on routine surveillance, enforcement resources can be directed to vessels operating in an unusual manner in the RCAs.

VMS does not replace or eliminate traditional enforcement measures such as aerial surveillance, boarding at-sea via patrol boats, landing inspections and documentary investigation. Traditional enforcement measures may need to be activated in response to information received via the VMS. VMS positions can be efficient in identifying possible illegal fishing activity and can provide a basis for further investigation by one or more of the

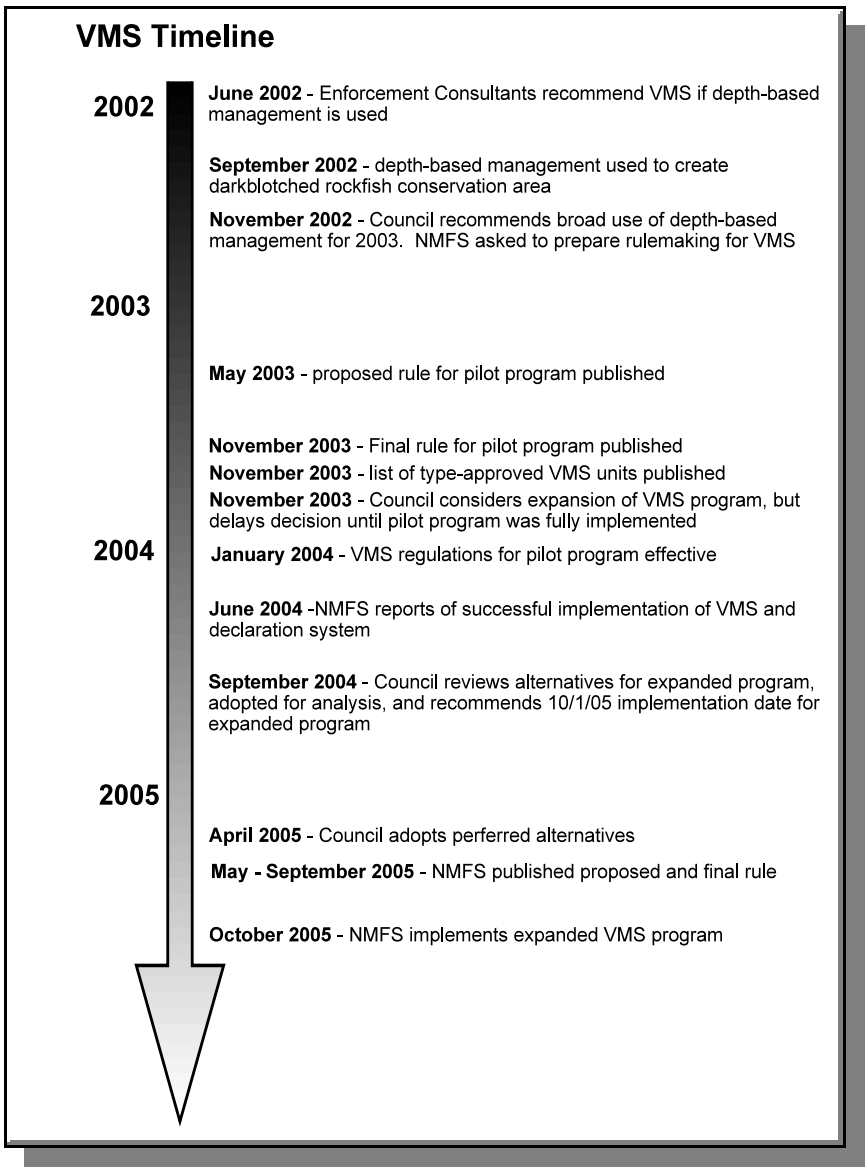
traditional enforcement measures. VMS positions in themselves can also be used as the basis for an enforcement action. One of the major benefits of VMS is its deterrent effect. It has been demonstrated that if fishing vessel operators know that they are being monitored and that a credible enforcement action will result from illegal activity, then the likelihood of that illegal activity occurring is significantly diminished

Type approved models and communication service providers – NMFS requires that VMS systems meet standards that have been defined and endorsed by NMFS OLE. VMS transceiver units approved by NMFS are referred to as type-approved models. The four VMS transceiver units and service providers currently type-approved for use in the Pacific Coast Groundfish Fisheries are listed in the following table.

VMS Transceiver units currently type approved for the Pacific Coast Groundfish Fishery

Type-approved VMS Transceiver Units	Approved Communications service providers
INMARSAT-C • Thrane & Thrane Capsat (TT-3022D-NMFS) Integrated GPS/inmarsat-C. Unit is the size of a car radio and placed in wheelhouse with antenna mounted atop wheelhouse. Factory preconfigured - automatic position reports start after transceiver is installed and power activated. Uses 10-32 VDC power supply. Reduced transmissions when vessel stationary. • Thrane & Thrane Mini-C (TT–3026–NMFS) Integrated GPS/inmarsat-C placed atop the vessel. Factory preconfigured - automatic position reports start after transceiver is installed and power activated. Uses 10-32 VDC power supply. Reduced transmissions when vessel stationary.	TELENOR SATELLITE SERVICES -- A store-and-forward data messaging service that allows users to send and receive information virtually anywhere in the world. Inmarsat-C supports a wide variety of applications including Internet e-mail, position and weather reporting, a free daily news service, and remote equipment monitoring and control. Can be used to send safety messages as part of the U.S. Coast Guard's Automated Mutual-Assistance Vessel Rescue system and the NOAA Shipboard Environmental Acquisition System programs. XANTIC - Can be used to send and receive E-mail, to and from land, transceiver automatically sends vessel position reports and is fully compliant with the International Coast Guard Search and Rescue Centers.
INMARSAT D+ • Satamatics SAT101 (SAT-101 NMFS/PCG) Integrated GPS receiver/Inmarssat D+ with antenna. Transceiver measures 4.4"x 6.8"x1.5" and can be installed inside or externally if sheltered from seas. Automatic position reports start after transceiver is installed and power activated. Uses 9.6 - 30 VDC power supply. Reduced transmissions when vessel stationary.	SATAMATICS/INMARSAT-D+– Satamatics provides global tracking and monitoring solutions. Satamatics is able to provide end to end bundled services using its own satellite gateways and its own D+ transceiver line that it designed and manufactures.
ORBCOMM • Stellar ST2500G-NMFS Integrated GPS/ORBCOM satellite communicator placed in wheelhouse with antenna mounted atop wheelhouse. Transceiver measures 4"x 8"x2" preconfigured - automatic position reports start after transceiver is installed and power activated. Uses 12 - 32 VDC power supply. Reduced transmissions when vessel stationary.	ESL SAT-EX SATELLITE SERVICES/ORBCOMM – A store-and-forward data messaging service allowing users to send and receive information virtually anywhere in the world. Supports a wide variety of applications including Plain Text Internet e-mail, position and weather reporting, and remote equipment monitoring and control. Can be used to send critical safety messages as part of the U.S. Coast Guard's Automated Mutual Assistance Vessel Rescue System.

Confidentiality of Position Data – Information collected under a VMS program is considered confidential and is subject to the confidentiality protection of Section 402 of the Magnuson-Stevens Act. Confidential data are only disclosed to Federal employees and Council employees who are responsible for management plan development and resource monitoring; and State employees when there is an agreement with the Secretary that prevents public disclosure. Confidential data can only be disclosed to the public when required by the Freedom of Information Act (FOIA), 5 U.S.C. 552, the Privacy Act, 5 U.S.C. 552a, or by court order.



IV. The Pilot program

Current VMS requirements -- During the initial phase of this program, the Council recommended that vessels registered to limited entry permits fishing in the EEZ off the Washington, Oregon, and California coasts be required to have and use a NMFS OLE type approved VMS transceiver units. In order to implement an effective VMS program, the Council also recommended requiring the operator of any vessel registered to a limited entry permit and any commercial or tribal vessel using trawl gear (including: exempted gear used to take pink shrimp, spot and ridgeback prawns, California halibut and sea cucumber) to declare their intent to fish within a conservation area specific to their gear type, in a manner that is consistent with the conservation area requirements. To date, over 300 VMS transceiver units have been installed on vessels in the limited entry groundfish fleet.

Neither state nor federal funding have been available for purchasing, installing, or maintaining VMS transceiver units, nor has funding been available for data transmission. Because of the critical need to monitor the integrity of conservation areas that protect overfished stocks while allowing for the harvest of healthy stocks, NMFS proceeded with the VMS requirements for the limited entry fisheries with fishery participants bearing the cost of purchasing, installing, and maintaining VMS transceiver units, VMS data transmissions, and reporting costs associated with declaration requirements. However, if state or federal funding becomes available, fishery participants may be reimbursed for all or a portion of their VMS expenses.

Benefits of VMS - Benefits result if the integrity of the RCAs are maintained. Total catch estimates of overfished species are based on lower bycatch rates from areas outside the RCAs. If RCA incursions occur, the estimated total mortality could be underestimated and the risk of exceeding the OYs for overfished species increase. Fishers will be the ultimate beneficiaries when regulations that are developed for conservation and management of overfished stocks are properly implemented and enforced. Maintaining the integrity of closed areas that are designed to protect overfished stocks will aid in the recovery of the stocks and help to guaranteed the future of the industry. In addition, while overfished stocks are being rebuilt, fishers benefit because VMS allows for greater flexibility in the use of management rules with geographical area restrictions including: seasonal access, closed areas, depth restrictions, or when participation is limited by duration or number of trips.

Overfished species bycatch estimates may be refined if VMS position and effort data can be joined with OA longline bycatch data. VMS is also likely to deter the misreporting of catch for areas other than where fish were caught and thereby help to maintain the integrity of data used for management decisions.

With VMS, the law-abiding skipper can be satisfied that there will be less likelihood of the enforcement officers inspecting vessels that comply with the closed area regulations and a greater probability that inspection will focus on vessels that are suspected of violating the regulations. At times the commercial fishing industry is subjected to criticism from members of the public and from other stakeholder groups regarding its responsibility to the environment in terms of complying with closure regulations intended to protect vulnerable species. While there may be some irresponsible operators it is generally believed that the majority of commercial operators abide by closed area restrictions. VMS offers the commercial industry a mechanism to enhanced public perception by demonstrating its compliance with such regulations and hence honor its responsibility to the long-term sustainability of fisheries resources.

VMS Declaration Reports - Declaration reports are currently required from vessels registered to limited entry permits with trawl endorsements; any vessel using trawl gear, including exempted gear used to take pink shrimp, spot and ridgeback prawns, California halibut and sea cucumber**;** and any tribal vessel using trawl gear, before the vessel is used to fish in any trawl RCA or the Cowcod Conservation Areas (CCAs) in a manner that is consistent with the requirements of the conservation area. In addition, declaration reports are required from vessels registered to limited entry permits with longline and pot endorsements, before the vessel can be used to fish in any Non-trawl RCA or the CCA, in a manner that is consistent with the requirements of those conservation area. Each declaration report is valid until cancelled or revised by the vessel operation. After a declaration report has been sent, the vessel cannot engage in any activity with gear that is inconsistent with the conservation area requirements unless another declaration report is sent to cancel or change the previous declaration. Declaration reports are submitted to NMFS by using a call-in system. Vessel operators making declaration reports receive a confirmation notice or number that verifies that the reporting requirements were satisfied

V. What's next for VMS?

September 2004 - The Council reviewed alternatives for VMS expansion into the open access fishery and adopted alternatives for analysis. The Council recommended an October 1, 2005 implementation date for the expanded VMS program. To allow time for the affected public to review the alternatives, the Council has delayed action on expanding the VMS program until its April 2005 Council meeting in Tacoma, Washington. VMS requirements are being considered for both directed open access groundfish vessels and vessels in other target fisheries that incidentally take and retain or possess groundfish in federal waters (seaward of 3 nm). VMS requirements for vessels that fish only in state waters along the mainland coast are not being considered at this time.

Getting involved

You may consider attending a Council or advisory meetings, both are open to the public. Members of the commercial and recreational fishery, the environmental community, and the public are encouraged to testify at Council meetings and hearings. This involves speaking in a formal public forum. At Council meetings, the Council members and staff generally sit in a "U" formation and everyone else sits in chairs at one end of the room. You will have to walk up to a microphone to make your comments. Because of time constraints, public comment is limited to five minutes for individuals and ten minutes for representatives of groups. Advisory body meetings are generally more informal than full Council meetings, and may be a more comfortable opportunity to express your opinions and ideas. VMS expansion is scheduled to be discussed by the Groundfish Advisory Subpanel (GAP) and the Council at the April 2005 meeting in Tacoma, Washington.

Because Council meetings are not convenient for everyone, you may choose to send written comments. The Council reads and considers all letters and emails that arrive before the briefing book deadline, two weeks before a Council meeting. Generally, letters are addressed to the Council Chair, Donald Hansen. Make sure your letter is legible, either by typing or writing very clearly. When writing, be sure to identify the FMP, amendment, proposed rule, or other measure you are commenting on. Then, state your position or opinion. Explain who you are and why the reader should pay attention to what you are saying. Be clear as to how the proposed action will affect you. Letters should be mailed to the Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 200, Portland, OR 97220 -1384. Further information of getting involved in the Council Process is available on the Council's web page [www.pcouncil.org/operations/involved.html].

If the Council recommends expanding the VMS program at the April Council meeting, NMFS will draft a proposed rule. This rule will be made available to the public for comment through publication in the Federal Register. Instructions on the duration of the comment period and how to submit comments will be stated in the proposed rule.